TOTES0*S22T2760

Upstream Summary Table																
Table: DocsIFUpstreamChannelTable																
IfIndex	WMTS ID	Slot	Card Port	Sector	RF Frequency	Channel Bandwidth	Modulation Type	Upstream Downconverter LO	Transverter Offset	FEC Factor	Symbol Rate	Data Rate	WMU Output Frequency	WMTS Input Frequency	RF Band Bottom	RF Band Top
					MHz	KHz		MHz	MHz		KHz	BpS	MHz	MHz	MHz	MHz
1	A	1	A	A	2153.00	3200	QPSK	2100	2135.625	b	2560	5120	17.375	53.00	2151.40	2154.60
2	A	2	A	B	2150.20	200	16QAM	2100	2135.625	c	160	640	14.575	50.20	2150.10	2150.30
3	A	2	B	B	2150.50	400	QPSK	2100	2135.625	c	320	1280	14.875	50.50	2150.30	2150.70
4	A	2	C	B	2151.10	800	16QAM	2100	2135.625	a	640	2560	15.475	51.10	2150.70	2151.50
5	A	2	D	B	2152.30	1600	QPSK	2100	2135.625	a	1280	2560	16.675	52.30	2151.50	2153.10
6	A	2	E	B	2153.90	1600	16QAM	2100	2135.625	b	1280	5120	18.275	53.90	2153.10	2154.70
7	A	2	F	B	2155.10	800	QPSK	2100	2135.625	b	640	1280	19.475	55.10	2154.70	2155.50
8	A	3	A	B	2155.70	400	QPSK	2100	2135.625	a	320	640	20.075	55.70	2155.50	2155.90
9	A	4	A	E	2157.00	800	QPSK	2100	2135.625	c	640	1280	21.375	57.00	2156.60	2157.40
10	A	5	A	D	2157.60	400	QPSK	2100	2135.625	b	320	640	21.975	57.60	2157.40	2157.80
Bold are operators inputs						select	select				= bandwidth/1.25		= RF Freq - transverter offs	= RF Freq - Upstream LO	= RF Freq - (Bandwidth/2)	= RF Freq + (Bandwidth/2)
												if QPSK=2*symbol				
A modem's profile is made up of its Downstream and Upstream IfIndexes												if 16QAM=4*symbol				
FEC factor is the type of FEC used for that profile																

FIG. 1

Bandwidth/Modulation tradeoffs					
downstream	assume 64 QAM and 6 MHz as reference				
	required S/N for 10^-6		27	21.5	13.5
	Modulation		64 QAM	16 QAM	QPSK
		Bandwidth			
		6000	0.0	5.5	13.5
Downstream		2000	4.8	10.3	18.3
		1000	7.8	13.3	21.3
Up Stream	assume 16 QAM and 2 MHz as reference				
	required S/N for 10^-6			21.5	13.5
	Modulation			16 QAM	QPSK
		Bandwidth			
		3200		0.0	8.0
		1600		3.0	11.0
		800		6.0	14.0
		400		9.0	17.0
		200		12.0	20.0

FIG. 2

IfIndex	WMTS ID	Slot	Card Port	Sector	RF Frequency	Channel Bandwidth	Modulation Type	Transmitter LO	Transverter LO	FEC Factor	Symbol Rate	Data Rate	WMU Input Frequency	WMTS Output Frequency	RF Band Bottom	RF Band Top
					MHz	KHz		MHz	MHz		KHz	BpS	MHz	MHz	MHz	MHz
1	A	1	A	A	2509.00	6000	64QAM	2465	2278	a	5000	30000	231.00	44.00	2506.00	2512.00
2	A	2	B	A	2513.00	2000	16QAM	2471	2278	c	1667	6667	235.00	42.00	2512.00	2514.00
3	A	2	A	B	2509.00	6000	64QAM	2465	2278	c	5000	30000	231.00	44.00	2506.00	2512.00
4	A	2	A	C	2518.50	1000	QPSK	2477	2278	b	833	1667	240.50	41.50	2518.00	2519.00
5	A	2	B	C	2519.50	1000	QPSK	2477	2278	b	833	1667	241.50	42.50	2519.00	2520.00
6	A	2	C	C	2520.50	1000	QPSK	2477	2278	b	833	1667	242.50	43.50	2520.00	2521.00
7	A	2	D	C	2521.50	1000	QPSK	2477	2278	b	833	1667	243.50	44.50	2521.00	2522.00
8	A	3	E	C	2522.50	1000	QPSK	2477	2278	a	833	1667	244.50	45.50	2522.00	2523.00
9	A	4	F	C	2523.50	1000	QPSK	2477	2278	c	833	1667	245.50	46.50	2523.00	2524.00
10	A	5	A	D	2521.00	6000	QPSK	2477	2278	b	5000	10000	243.00	44.00	2518.00	2524.00
						select	select				= bandwidth/1.25		= RF Freq - WMU LO	= RF Freq - WMTS LO	= RF Freq - (Bandwidth/2)	= RF Freq + (Bandwidth/2)
												if QPSK=2*symbol				
A modem's profile is made up of its Downstream and Upstream IfIndexes												if 16QAM=4*symbol				
												if 64QAM=6*symbol				
												if 256QAM=8*symbol				

FIG. 3

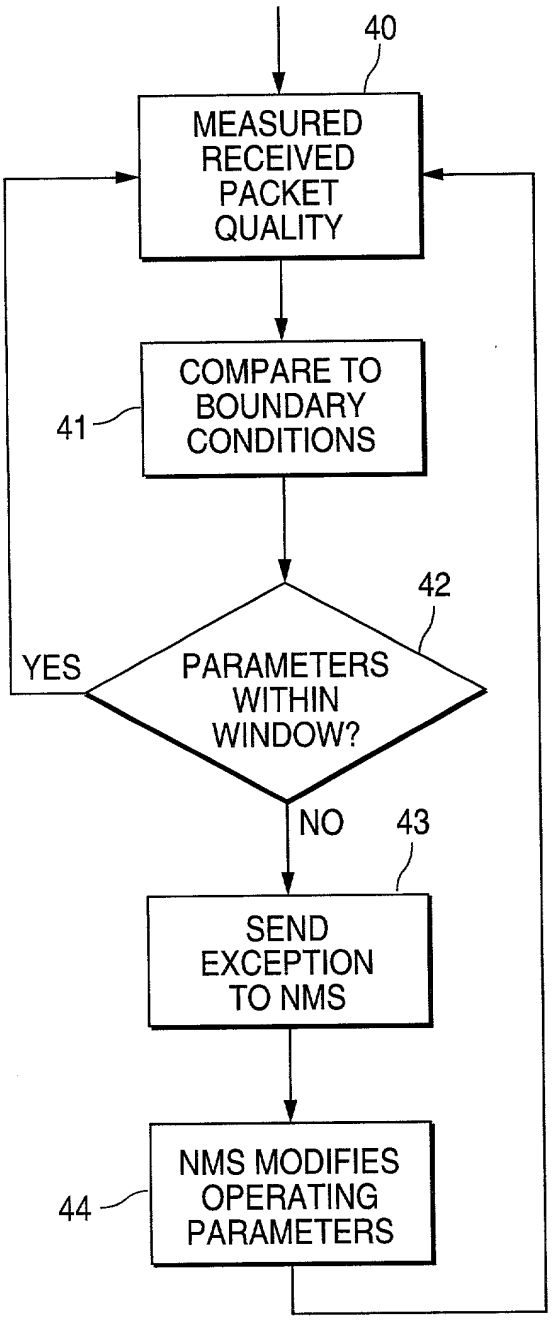
40
MEASURED RECEIVED PACKET QUALITY
COMPARE TO BOUNDARY CONDITIONS
41
42
YES
PARAMETERS WITHIN WINDOW?
NO
43
SEND EXCEPTION TO NMS
NMS MODIFIES OPERATING PARAMETERS
44

FIG. 4

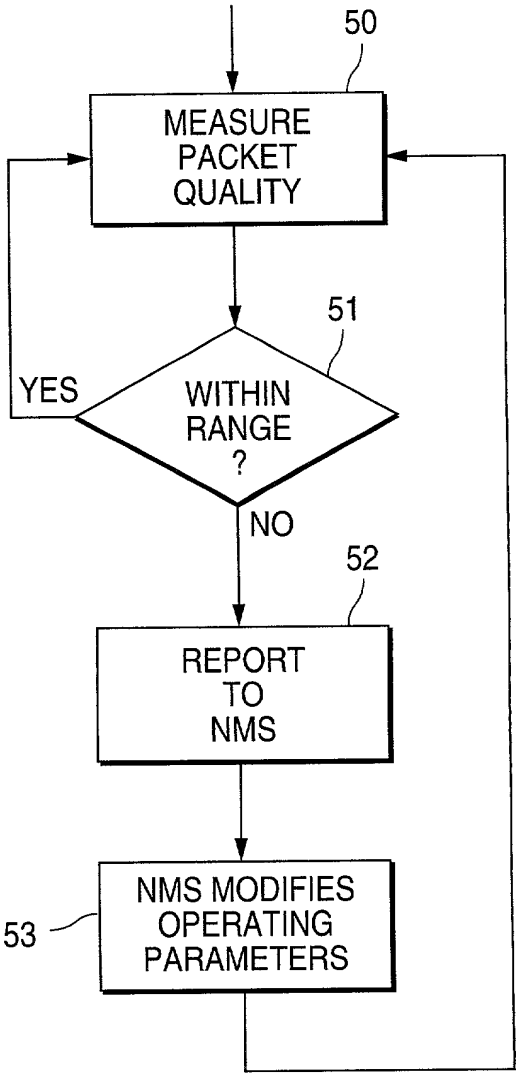
50
MEASURE PACKET QUALITY
51
YES
WITHIN RANGE ?
NO
52
REPORT TO NMS
NMS MODIFIES OPERATING PARAMETERS
53

FIG. 5